

- d. following the circumferential edge of the part with a treating device using the computed tool path, wherein the computed tool path represents the sum of the previous tool path and the measured deviation, wherein the circumferential edge of the part is measured and treated, and wherein the computed tool path follows the circumferential edge of the part precisely to improve the accuracy of the edge treatment process.

11. An apparatus for measuring and treating a circumferential edge of a part, the apparatus comprising:

- a) a measuring device for mapping and measuring the circumferential edge of the part, wherein the measuring device is capable of measuring a deviation between a predicted tool path and an actual surface profile over at least substantially the entire circumferential edge of the part;
- b) a treating device for processing the circumferential edge of the part after the circumferential edge of the part has been mapped and measured;
- c) machine elements capable of securing the part and moving the circumferential edge of the part relative to the measuring device or the treating device;
- d) a motion controller for monitoring and controlling the machine elements, wherein the motion control electronics store information related to the predicted tool path of the part and are capable of calculating the actual surface profile of at least substantially the entire circumferential edge of the part, and wherein the motion control electronics command the machine elements to move the circumferential edge of the part relative to the

- measuring device or the treating device to measure and/or treat the circumferential edge of the part, and
- e) an operator interface computer operatively connected to the motion controller, wherein the operator interface computer provides operator control over the machine elements.

12. The apparatus according to claim **11**, wherein the measuring device comprises a roller or a wheel or a non-rotating round surface.

13. The apparatus according to claim **12**, wherein the treating device comprises a roller or a wheel or a non-rotating round surface and the treating device surface has substantially the same diameter as the measuring device.

14. The apparatus according to claim **11**, wherein the machine elements are capable of vertical and rotational movement, wherein the part rotates relative to the measuring device.

15. The apparatus according to claim **11**, wherein the machine elements comprise a rotary spindle mounted on a carriage and coupled to at least one linear slide.

16. The apparatus according to claim **11**, wherein the part remains in contact with the measuring device while the part is being measured;

wherein the computed tool path is obtained.

17. The apparatus according to claim **11**, wherein measuring device moves linearly relative to the part mounted on the machine elements due to the difference between the predicted measurement position and actual measurement position of the circumferential edge.

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